physical conditions are the same. The measurements given in the paper show that between the limits $\lambda = 483\,\mu$ and $\lambda = 547\,\mu$ this is very approximately true.

WE have received from Messrs. W. and A. K. Johnston, Ltd., a convenient pad of sectional paper ruled in inches and tenths. The size of the sheets is 8 inches by 10 inches, and the price of the pad 1*s*. 6*d*. net.

MR. JOHN MURRAY has published a fourth edition of Mr. W. C. Clinton's "Electric Wiring." The first issue of the primer was reviewed in NATURE for October 23, 1902 (vol. lxvi., p. 629). Of the present edition it will suffice to say that in its revision an effort has been made to bring it up to date without increasing its size unduly.

THE current issue of *The Central*—the magazine of the Old Students' Association of the Central Technical College—commences the third year of publication of what has become an enterprising periodical. Some impressions of South Africa, by Prof. O. Henrici, F.R.S.; with the British Association in South Africa, by Dr. E. F. Armstrong; Mr. Freeman's account of the Witwatersrand, and Mr. Ashcroft's description of a lecture-table testing machine are all interesting contributions; and there are numerous first-rate illustrations.

A SECOND edition of Dr. W. D'Este Emery's "Handbook of Bacteriological Diagnosis for Practitioners" has been published by Mr. H. K. Lewis under the new title "Clinical Bacteriology and Hæmatology for Practitioners." Though the general scope of the book remains unaltered, several additions have been made. The additions to the bacteriological portion are mostly concerned with the examination of materials from special parts of the body. The hæmatological portion is almost all new, and provides a practical guide to blood examinations, especially their application to the diagnosis of disease. The price of the new edition is 7*s*. 6*d*. net.

## *OUR ASTRONOMICAL COLUMN.*

ASTRONOMICAL OCCURRENCES IN JULY:—

July 2. 7h. 55m. to 8h. 52m. Moon occults γ Libræ (mag. 4·1).
,, 12h. Neptune in conjunction with the Sun.
5. 15h. 15m. to 16h. 15m. Moon occults $\xi^2$ Sagittarii (mag. 3·5).
6. 12h. 2m. Minimum of Algol (β Persei).
15. 3h. Mercury at greatest elongation (26° 39′ E.).
,, 8h. Mars in conjunction with the Sun.
,, 13h. 34m. to 14h. 31m. Moon occults Tauri (mag. 4·3).
,, Venus. Illuminated portion of disc = 0·760; of Mars = 1·000.
16. 7h. Ceres in conjunction with Moon. Ceres 0° 38′ S.
,, 14h. 10m. to 15h. 2m. Moon occults γ Tauri (mag. 3·9).
17. 0h. 40m. Moon approaches near to α Tauri (mag. 1·1).
18. 14h. 0m. Jupiter in conjunction with Moon. Jupiter 3° 21′ N.
19. 14h. 0m. to 16h. 40m. Transit of Jupiter's Satellite III. (Ganymede).
21. 1h. 14m. Partial eclipse of the Sun invisible at Greenwich.
24. 7h. Venus in conjunction with Moon. Venus 1° 23′ S.
29. 10h. 33m. Minimum of Algol (β Persei).

THE FIGURE OF THE SUN.—In his discussion concerning the variable figure of the sun, which was referred to in these columns on January 18, Dr. Poor included the heliometer measures of the polar and equatorial diameters made by Messrs. Ambronn and Schur at Göttingen during the period 1890 to 1902, and found from them a confirmation of his previous conclusions.

The validity of the conclusions thus obtained is now questioned by Dr. Ambronn in No. 4, vol. xxiii., of the *Astrophysical Journal*. He points out that the variation, if it exists, cannot, according to the heliometer measures, exceed 0″·1 by any appreciable amount, and suggests that the measurement of the earlier photographic plates could not produce results accurate to this figure. Further, the measurements for 1894 furnish, for the more recent photographs, a proof that the oscillations adduced by Dr. Poor are not present.

After several other explanations Dr. Ambronn states that the most thorough investigation of the large amount of data collected at Göttingen has convinced him that this furnishes no justification for the suggested periodicity.

DISCOVERY OF ALGOL VARIABLES.—Circular No. 117 from the Harvard College Observatory announces the discovery that the star H1236 (−30°.16169 C.DM.) is an Algol variable having a range of about one magnitude and a period slightly exceeding two days.

This variable was discovered by Mrs. Fleming on a plate taken in accordance with the multiple-image method described in a previous Circular, and by which it is hoped to discover all the short-period variables of magnitude 10·0 and brighter. In this method a dozen or more exposures, each of thirty minutes' duration, are made on the same plate moved by a small amount between each exposure.

Plates covering nearly the whole of the sky have now been obtained under these conditions, but only a few have so far been examined; nevertheless, this is the second Algol variable thus discovered by Mrs. Fleming.

AN INTERESTING MINOR PLANET.—A recently-discovered minor planet (T.G.) proves to be of exceptional interest owing to its great mean distance.

Elliptical elements recently deduced by Dr. Berberich indicate that the mean distance of this asteroid is slightly greater than that of Jupiter, whilst its aphelion distance is nearly one unit beyond Jupiter's orbit. This discovery extends the limits of the asteroids so that they now include a distance of 1·1, the perihelion distance of Eros, and one of 6·0 units, the aphelion distance of the newly-discovered T.G. (the *Observatory*, No. 371).

OBSERVATIONS OF JUPITER IN 1903 AND 1905–6.—In continuation of his record of the observations of Jupiter made during the years 1898–1902 inclusive, which was published in vol. lxiii. of the Monthly Notices, Mr. Denning now publishes (in vol. lxvi., No. 7) his results for the oppositions of 1903 and 1905–6.

During 1903, 1388 transits were observed, and of these 1188 were utilised in determining the rotation periods of the different zones as given in the present paper. The periods determined vary from 9h. 55m. 54·3s. for the N. temperate markings to 9h. 50m. 27·9s. for the equatorial; only the latter, however, gives a value less than 9h. 55m. 6·0s. In the 1905–6 apparition the mean period of rotation of the equatorial spots had increased to 9h. 50m. 32·7s., a value which is a few seconds in excess of that exhibited during the previous eight years. Mr. Denning also gives a number of notes on the apparition of 1905–6, dealing with the appearance and the variations of the different markings in detail. He also states that the best time for examining details on Jupiter is near the time of sunset.

The results of a number of micrometer measures of Jupiter's diameter and of the various belts, made at the Copenhagen Observatory during the recent opposition, are published in No. 4098 of the *Astronomische Nachrichten* by Dr. H. E. Lau.

PHOTOMETRIC OBSERVATIONS OF SATURN'S SATELLITES.—In No. 4098 of the *Astronomische Nachrichten* Dr. P. Guthnick publishes the results of a series of photometric observations of Saturn's six brightest satellites. The observations were made during the summer and autumn of 1905 at the Bothkamp Observatory, and the results for Tethys, Dione, Rhea, Titan, and Japetus are set out in tabular form so as to show the anomaly of the satellite

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and the corresponding apparent magnitude at the time of observation.

NEW DOUBLE STARS.—Forty-two newly-discovered double stars are described by the Rev. T. E. Espin in a catalogue which appears in No. 7, vol. lxvi., of the Monthly Notices (R.A.S.).

The stars are all situated between 30° and 40° N. declination, and the author gives in the catalogue the position (for 1900), the separation, the position-angle, and the magnitudes for each pair.

## *THE INTERNATIONAL CONGRESS OF ANTHROPOLOGY AND PREHISTORIC ARCHÆOLOGY.*

THE International Congress of Anthropology and Prehistoric Archæology held its thirteenth session at Monaco, on the generous invitation of H.S.H. Prince Albert, " Protecteur " of the congress, on April 16–21. The place of meeting was the Grande Salle of the beautiful and now nearly completed Museum of Oceanography in course of erection by this Royal savant. More than 400 members, of whom upwards of thirty were British, assembled under the distinguished presidency of Prof. Hamy, of the Institute of France. To the sincere regret of all the members, the Prince was prevented by illness from opening the proceedings as he had intended, and, indeed, from being present at any of its meetings. He was, however, represented by his son, the Crown Prince, who, accompanied by the high officers of the Principality, attended at the opening seance and read the address which his father was unable to deliver, and from which we quote the following sentences :—" Je me félicite de ce que mes efforts pour le développement de l'anthropologie m'aient permis de réunir, sur ce point de l'Europe où les vestiges de l'Humanité remplissent la terre, une assemblée comme la votre choisie entre les savants de plusieurs pays avancés. Je suis certain, d'ailleurs, que votre Congrès laissera au domaine scientifique, des notions importantes sur l'histoire de notre espèce, car les travaux tout récents de MM. Boule, Verneau, de Cartailhac, de Villeneuve suffisent à lui constituer un monument. . . . C'est dans le Palais de la mer que l'Anthropologie trouve accueil aujourd'hui ; et l'union de toutes les sciences alliées contre l'ignorance . . . que l'Océanographie peut déjà relier certaines conquêtes de la Science. Car l'étude des lois physiques et chimiques de la mer conduit a l'explication des remaniements géologiques de notre planète et des luttes successives entre les continents et les mers. Les progrès de la Biologie et de la Zoologie marines permettent d'utiliser les révélations de la Paléontologie pour constituer l'échelle des transformations infiniment nombreuses par lesquelles une force que nous appellons la vie a fait passer la matière organique. Et la Météorologie, si intimement liée avec l'Océanographie par des rapports incessants, nous aide à comprendre les fluctuations, les migrations, et la distribution géographique des êtres, y compris celle de l'homme. Parmi les Congrès précédemment réunis ici même, il en est un, celui de la Paix, dont j'évoquerai le souvenir aujourd'hui, parce que la Science et la Paix sont inséparables et que l'Anthropologie, comme tous les Sciences, doit contribuer au bien-être des hommes. . . ." The congress was formally welcomed also by H.E. M. Ritt, the Governor-General of the Principality, in a most courteous speech, which was acknowledged by representatives of the foreign delegates, Sir John Evans replying on behalf of Great Britain. The inaugural address of the president on the objects of the congress, the importance of its work, and the present position of prehistoric archæology concluded the first day's proceedings.

By an ordinance of the congress, French is the only language permitted in verbal or written communications, a restrictive regulation, we believe, enforced at no other international convention. A proposition was, however, early submitted to the council at Monaco that other languages should be admissible, but it met with favour only so far as regards written communications, which, it was resolved, may now be presented also in English, Italian, or German. All verbal communications, however, must still be in French. This change concedes practically little; for while it may be easy to prepare and read a paper in a foreign language, it is extremely difficult to express on the spur of the moment, in a language with which one is not very familiar, exactly what one wishes to convey. The chief privilege of members is the right to express their views on questions before the congress, but this rule practically disfranchises all those unable to speak French. Considerable dissatisfaction was felt at the severity with which the regulation was enforced. Indeed, many foreigners thus compelled to speak in French were less intelligible even to those acquainted with that language than if they had been permitted to use their own tongue! It is sincerely to be hoped that at the next session, which has been fixed to meet in Dublin in 1909, this harsh bye-law will be entirely abrogated, and that members of all countries may be allowed, equally with their French colleagues, to address the congress in their own language.

The dominant subject of the second seance was the genuineness of the implements known as " eoliths." A series of mill-modelled flint nodules was exhibited, among which there was certainly a number closely resembling many Prestwichian types, but conspicuous by their absence were the decidedly purposeful and rationally usable Kentian forms. A small collection exhibited by Prof. Girod, obtained near Aurilliac, affirmed to be out of a bed of Tortonian (Miocene) gravels containing Hipparion, underlying a massive stratum of basalt, contained at least one " eolith " unquestionably of human manufacture. The occurrence was vouched for, by M. Rutot, of implements of a particular silex identical in form with those from Kent in pre-Glacial beds in Belgium in which no other silex pebbles of the same character and composition were present, and the manufacture and introduction of which could be due only to man. Prof. Ray Lankester submitted that he had recently placed on exhibition in the British Museum a considerable series of specimens selected from Prestwich's collection, all borer-like in form, too identical in shape and so obviously of rational utility for any possibility of their being the result of fortuitous natural collisions. The congress was, however, divided in opinion on the subject. At a later meeting a telegram from Prof. Schweinfurth, in Egypt, was read announcing full confirmatory evidence of the occurrence of eoliths in the Nile Valley. The most important part of the day's programme was the visit paid to the Grimaldi caves at the Red Rocks, between Mentone and Ventimiglia, the inspection commencing with the most easterly—the Grotte du Prince. This cave has been most systematically and scientifically explored by a trio of distinguished archæologists, Prof. Marcellin Boule, the Abbé de Villeneuve (director of the Archæological Museum of Monaco), and Prof. Verneau. With much trouble and no little risk to limb, the grotto-walls had been marked by labels and lines of paint to indicate the limits of the various horizons in correspondence with those on a diagram of a longitudinal section of the cave distributed to members. From an elevated crag the Abbé de Villeneuve gave an account of the method of excavation and of the discoveries made at the various levels, while Prof. Boule detailed the sequence of events from the geological and palæontological point of view. So lucid were both these demonstrations that no one could fail to carry away a perfectly clear comprehension of the original contents of the cave, and form their own opinion on the evidence for man's antiquity in this region afforded by its exploration. No human osseous remains were met with in this grotto, but worked implements occurred in abundance from the lowest to the highest layers. Those from the lowest beds, which were roughly worked and chiefly Mousterian in type, occurred in association with bones of *Rhinoceros merckii, Elephas antiquus* and hippopotamus, and with specimens of *Cassis rufa*, an Indian Ocean mollusc which may perhaps have been acquired by barter. The contents of this cave have been transported to the Archæological Museum in Monaco, and arranged with such care by the Abbé de Villeneuve in the order of succession of the various strata, and so accurately labelled, that it is impossible to overestimate the importance to anthropological science of this comparatively small collection.

The Barma (=Grotte) Grande next claimed attention

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